CLAIMS

What is claimed is:

1. An impact-absorbing level comprising:

- a body including a level face for measuring a surface, the body extending from a first end to a second end;
- at least one vial mounted in the body at a predetermined angular relationship to the level face; and
- a first end cap fixed with respect to the first end, the first end cap comprising an outer layer and an intermediate layer, the intermediate layer fixed to the outer layer and having lower density than the outer layer, the intermediate layer positioned between the outer layer and the body;

whereby the first end cap absorbs impacts to the outer layer to prevent damage to the body.

2. The level of claim 1 further comprising a second end cap fixed with respect to the second end, the second end cap comprising an second outer layer and a second intermediate layer, the second intermediate layer fixed to the second outer layer and having lower density than the second outer layer, the second intermediate layer positioned between the second outer layer and the body.

3. The level of claim 1 wherein the outer layer is acrylonitrile butadiene styrene and the intermediate layer is thermoplastic rubber.

4. The level of claim 1 wherein the first end cap further comprises an inner layer having a higher density than the intermediate layer, the inner layer connecting the intermediate layer to the body.

5. The level of claim 4 wherein the outer layer is acrylonitrile butadiene styrene, the intermediate layer is thermoplastic rubber, and the inner layer is acrylonitrile butadiene styrene.

6. The level of claim 5 wherein the outer, intermediate and inner layers extend from a bottom surface to a top surface and wherein the inner and outer layers are comprised of a first material and further including a web layer comprised of the first material and further connecting the inner and outer layers.

7. The level of claim 1 wherein the body defines a body profile at the first end, the outer layer defines an outer profile which matches the body profile, and the intermediate layer includes a baffled profile including portions matching the body profile and portions smaller than the body profile.

8. The level of claim 1 wherein the first end cap is adhered to the body.

9. In a level including (a) a body extending from a first end to a second end, (b) a level face connected with respect to the body, the level face for measuring a surface, and (c) a vial mounted with respect to the body at a predetermined angular relationship to the level face, the improvement wherein a first dual-density end cap is mounted to the first end and a second dual-density end cap is mounted to the second end, the end caps having an outer layer and an intermediate layer, whereby impacts to an end cap result in compression of the end cap and dissipation of the impact to prevent damage to the level.

10. The level of claim 9 wherein the intermediate layers have lower densities than the outer layers and are compressed more easily than the outer layers.

11. The level of claim 10 wherein the outer layers are acrylonitrile butadiene styrene and the intermediate layers are thermoplastic rubber.

12. The level of claim 9 wherein the end caps further comprise inner layers connecting the intermediate layers to the body.

13. The level of claim 12 wherein the intermediate layers have lower densities than the inner and outer layers and are compressed more easily than the inner and outer layers.

14. The level of claim 13 wherein the inner and outer layers are acrylonitrile butadiene styrene and the intermediate layers are thermoplastic rubber.

15. The level of claim 13 wherein the body defines a body profile at the ends, the outer layers define outer profiles which match the body profile, and the intermediate layers include baffled profiles including portions matching the body profile and portions smaller than the body profile.

16. The level of claim 13 wherein the outer layers are bonded to the intermediate layers, the intermediate layers are bonded to the inner layers, and the inner layers are bonded to the ends.

17. A method of providing impact-absorption to a level, the method comprising:

- providing a level having a body defined by first and second ends;
- adhering a dual-density end cap to each end, each end cap having an intermediate layer for connection with respect to a respective end and an outer layer for connection to a respective intermediate layer, the outer layer having an outer surface,

whereby each end cap absorbs impacts to the respective outer surface by allowing the respective outer surface to be moved toward the respective end during the respective impact.

18. The method of claim 17 wherein each end cap further includes an inner layer for connection to a respective end and to a respective intermediate layer.

19. The method of claim 17 wherein the intermediate layers have lower densities than the outer layers and the intermediate layers are compressed more than the outer layers during an impact.

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